

CLAIMS

1. A method of producing a cutting filament for a
plant cutting apparatus such as a grass trimmer or
edge trimmer, the filament being made of a
synthetic material having elongated molecular
chains, characterized in that it comprises the
following steps:
 - (a) bringing the filament (10) to a state of
controlled viscosity,
 - (b) drawing the filament lengthwise to produce a
first longitudinal molecular orientation (01),
 - (c) imposing on the filament a change of cross
section capable of partially reorienting the
molecular chains in a transverse direction
(02).
2. The method as claimed in claim 1, characterized in
that it also comprises a step consisting in:
 - (d) imposing on the filament a second change of
cross section capable of causing a second
partial reorientation of the molecular chains
in a transverse direction.
3. The method as claimed in claim 2, characterized in
that the second change of cross section is made in
a general direction substantially identical to
that of the first change of cross section.
4. The method as claimed in claim 2, characterized in
that the second change of cross section is made in
a general direction substantially orthogonal to
that of the first change of cross section.
5. The method as claimed in claim 2, characterized in
that the second change of cross section is made
partially in a general direction substantially
identical to that of the first change of cross
section and partially in a general direction

substantially orthogonal to that of the first change of cross section.

- 5 6. The method as claimed in one of claims 1 to 5, characterized in that the filament has, before the implementation of step (c), a uniform cross section whose dimensions in two orthogonal directions are similar.
- 10 7. The method as claimed in claim 6, characterized in that the step (c) comprises a flattening of the filament.
- 15 8. The method as claimed in claims 2, 6 and 7 taken in combination, characterized in that the step (d) comprises an at least local flattening of the filament.
- 20 9. The method as claimed in claim 8, characterized in that the step (c) comprises a localized flattening and a localized thickening of the filament.
- 25 10. The method as claimed in one of claims 1 to 9, characterized in that the change of cross section, or at least the last change of cross section, of the filament is capable of forming a filament comprising a body and at least one wing protruding from the body.
- 30 11. The method as claimed in one of claims 1 to 10, characterized in that the change of cross section of the filament, or at least one of the changes of cross section, comprises forcing the filament through a series of dies of progressively
35 different sections.
12. The method as claimed in one of claims 1 to 10, characterized in that the change of cross section of the filament, or at least one of the changes of

cross section, comprises forcing the filament through a single die of variable section.

13. The method as claimed in one of claims 1 to 12,
5 characterized in that it also comprises a step of cutting the filament whose section has been changed into a plurality of individual subfilaments in the longitudinal direction of the filament.
- 10 14. A cutting filament (10) for a plant cutting apparatus such as a grass trimmer or edge trimmer, the filament being made of a synthetic material with elongated molecular chains such as a
15 polyamide, characterized in that, in at least one zone of the cross section of the filament, the orientation (02) of the molecular chains diverges from a longitudinal orientation (01).
- 20 15. The cutting filament as claimed in claim 14, characterized in that it comprises a body (11) and at least one wing (12, 13) protruding from the body, and in that said wing forms a zone in which
25 the orientation of the molecular chains diverges from a longitudinal orientation.
16. The filament as claimed in claim 15, characterized
30 in that the wing (12, 13) has a generally triangular cross section.
17. The cutting filament as claimed in claim 15 or 16,
35 characterized in that, in the body (11) of the filament, the molecular chains are oriented essentially in the longitudinal direction (01) of the filament.
18. The cutting filament as claimed in claim 14, characterized in that, over most of its cross section, there are molecular chains oriented

longitudinally and molecular chains oriented generally in a given transverse direction.

- 5 19. The cutting filament as claimed in claim 14, characterized in that, over most of its cross section, there are molecular chains oriented longitudinally, molecular chains oriented generally in a first given transverse direction and molecular chains oriented generally in a
10 second given transverse direction.
20. The filament as claimed in claim 19, characterized in that the first and second transverse directions are essentially orthogonal to one another.